

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
13 October 2005 (13.10.2005)

PCT

(10) International Publication Number
WO 2005/094672 A1

(51) International Patent Classification⁷: **A61B 5/021**

(21) International Application Number:
PCT/IB2004/000953

(22) International Filing Date: 30 March 2004 (30.03.2004)

(25) Filing Language: English

(26) Publication Language: English

(71) Applicants (for all designated States except US): **EIDGENÖSSISCHE TECHNISCHE HOCHSCHULE ZÜRICH** [CH/CH]; Rämistrasse 101, CH-8006 Zürich (CH). **UNIVERSITÄT ZÜRICH** [CH/CH]; Rämistrasse 71, CH-8006 Zürich (CH).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **KIRSTEIN, Kay-Uwe** [DE/CH]; Holzmattstrasse 29, CH-8953 Dietikon (CH). **SALO, Tomi** [FI/CH]; Kolbenacker 14, CH-8052 Zürich (CH). **GRÜNENFELDER, Jürg** [CH/CH]; Minervastrasse 51, CH-8032 Zürich (CH). **SE-DIVY, Jan** [CZ/CH]; Altstetterstrasse 183/212, CH-8048

Zürich (CH). **ZÜND, Gregor** [CH/CH]; Haselweg 1, CH-8704 Herrliberg (CH). **BRAND, Oliver** [DE/US]; 335 Brentwood Terrace, Atlanta, GA 30305 (US).

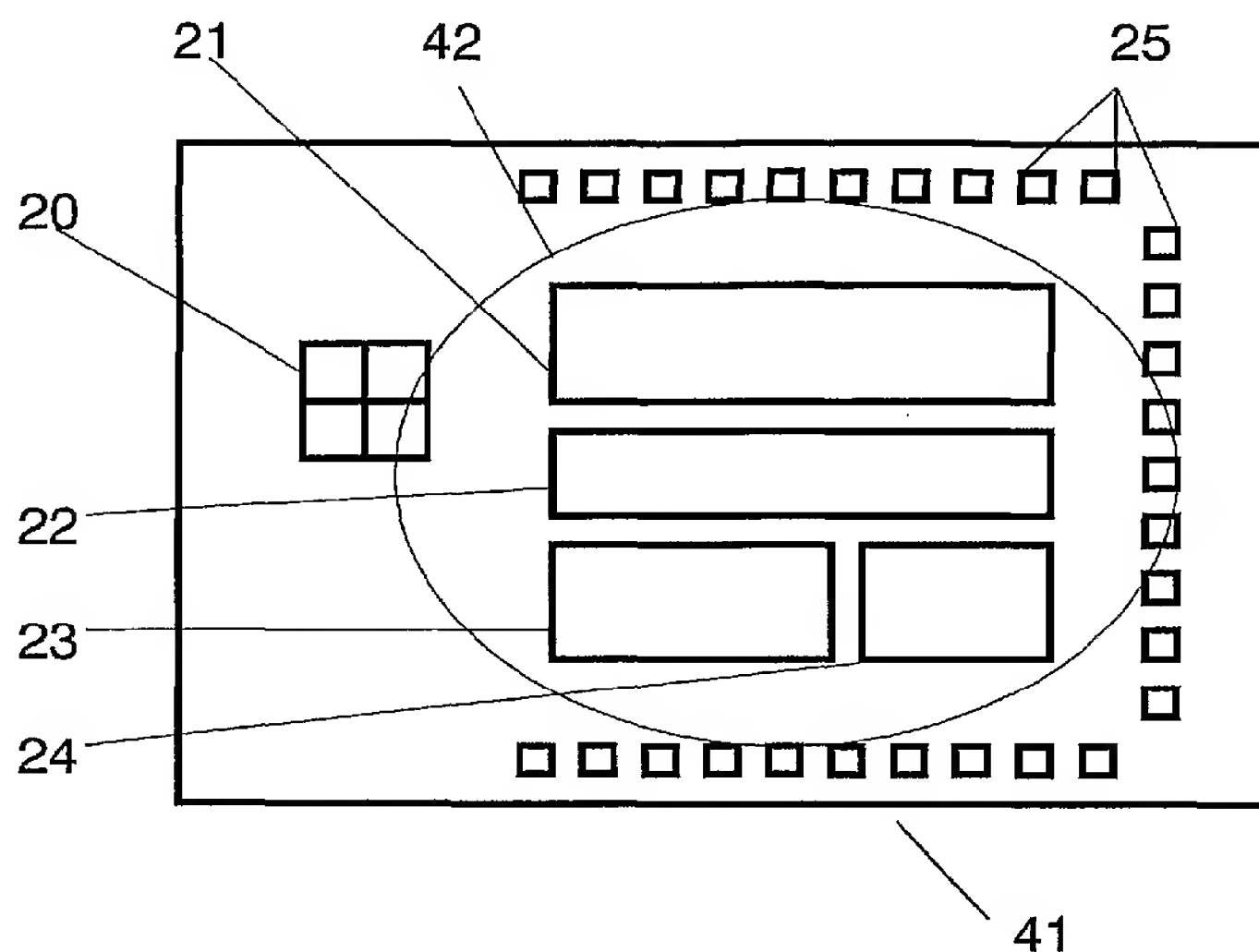
(74) Agent: **BARTH, Carl, O.**; Abacus Patentanwälte, Zürichstrasse 34, CH-8134 Adliswil (CH).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK,

[Continued on next page]

(54) Title: BLOOD PRESSURE MONITORING DEVICE AND METHODS FOR MAKING AND FOR USING SUCH A DEVICE



(57) Abstract: Disclosed are a system and a method for noninvasively and continuously monitoring blood pressure. Also disclosed is a method for making such a device. The system includes a semiconductor chip comprising a transducer array of individual pressure or force sensors and associated circuitry providing control signals to and/or processing signals from these sensors, all of the above integrated in the chip. Also disclosed is a specific sensor structure provided on said chip. The invention further encompasses a system for measuring and/or tracking the blood pressure waveform and for combining the latter with related blood values like the heartbeat, derived from the above or other measuring devices.

WO 2005/094672 A1



TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Published:

— *with international search report*